

Practical Remarks
ON
YELLOW FEVER.

BY
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LATE ON THE LEEWARD ISLAND STATION.

"Quæque ipse miserrima vidi."

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TO

JOHN WEIR, ESQ.

Medical Commissioner of the Navy, &c.

SIR,

THE high station which you fill, the acknowledged liberality of your principles, your solicitude to improve the department of the Naval service over which you preside, and the extensive opportunities you have enjoyed of judging of the questions discussed in this Essay, all combine to render it peculiarly fit that it should be addressed to you. I therefore lay it before you, confident that you will excuse its many defects, on account of the peculiar situation of the writer.

I am, SIR,

Your most obedient servant,

G. BIRNIE.

PREFACE.

THE following pages will place before the Public, the beneficial results of early, and copious blood-letting in Yellow Fever. It will be found carried to an unusual, and, in a great number of cases, I believe, to an unprecedented extent.

The practice, though certainly bold, will not only be justified, but I trust recommended, by its uniformly striking, and consolatory effects. I know no situation more appalling to a feeling mind, than that of a medical man, when surrounded by numbers of his fellow-creatures, labouring under one of the most terrific diseases which afflict mankind—the fever of the West Indies. When he observes their apprehensions stretched to the last degree of fearful expectation, by the sight of hourly mortality, by the delirious exclamations of dying friends and messmates; when he hears them, in the native language of suffering, of fear, and of hope, unavailingly supplicate for relief, (and that too, with a pathos far beyond the power of language to describe,) then must he feel, and unless every spark of sympathy

be dead within him, awfully feel the solemn responsibility of his situation. It is a deeply affecting one, and calls for all the energies of the human mind. It is when thus surrounded by objects of suffering and distress, when prior experience, and present observation, only tend to prove the total inefficacy of vainly boasted remedies, that departure from established practice becomes legitimate; nay, that innovation becomes peremptory duty. And just cause indeed has that surgeon for self-congratulation, who has been fortunate enough, whether from reasoning or accident, to adopt a successful mode of treatment.—I trust that I have found such a mode.

Before joining the *Scamander*, as acting surgeon, in March, 1817, I had seen a great deal of fever in the squadron then employed on the Leeward Island station, and I had lost no opportunity of observing it on shore. I had remarked, that irregularity of the functions of the intestinal canal was never connected with it; and I had ascertained, that purgatives seldom operated where bleeding had not been premised; and that where they did operate, they produced no effect on the disease. I had seen, that while the constitution laboured under the febrile excitement, the specific effects of mercury could scarcely be induced, so many as five or six hundred grains of calomel having neither affected the bowels, nor acted on the system; that where a small quantity caused a soreness of the mouth, (for it never produced ptyalism,) it did not even then produce any

good effects. I had observed deplorable effects result from large quantities of mercury taken during the febrile state of the system, and acting suddenly when that state had subsided, not unfrequently destroying the alveolar processes, the gums and tonsils, and inducing an extreme state of debility.

Having been taught to expect the most beneficial effects from the cold bath, it had a very extensive trial in the beginning of our practice in the squadron; but we did not find it to possess any curative powers in this disease; and it was gradually abandoned. It merely rendered the patient cool and easy for a very short period; but when re-action took place, the symptoms always displayed tenfold violence, and delirium often occurred in ten minutes after removing the patient from the bath.¹ In some of the bodies which I had opened, or had seen opened, the stomach and intes-

¹ Cold has ever been acknowledged to possess tonic and stimulant powers in a high degree. Cullen, in the 70th and 89th pages of the first volume of his *Practice of Physic*, attributes to it both sedative and stimulant effects. With regard to the first, or sedative effect of cold, I think he is unusually vague and inaccurate; but his account of its stimulant power is clear and exact.

"It is equally manifest," says he, "that, in certain circumstances, cold proves a stimulus to the living body, and particularly to the sanguiferous system.

"It is probable, that this effect takes place in every case, in which the temperature applied produces a sensation of cold; and this, therefore, as depending entirely on the relative power of cold, will be in proportion to the change of temperature that takes place. It appears to me probable, that every change of temperature, from a higher to a lower degree, will prove more or less stimulant; excepting when the cold applied is so intense, as immediately to extinguish the vital principle in the part."

tines were inflamed, and sometimes ulcerated; and in every case, the brain exhibited the most unequivocal marks of inflammation. With so much melancholy experience of the nature of this disease, of the danger of temporising with it, and of the absolute inefficacy of every mode of treatment recommended for its cure, I adopted a bold and energetic practice; which, I am happy to say, succeeded beyond my most sanguine hopes; and which authorises me to assert, that the attempt to cure it by calomel alone, or in any other way hitherto discovered, than by venesection, is to trifle with the lives of those entrusted to our care. But while I place so much confidence in the power of blood-letting, I do not reject the use of cathartics, blisters, &c.; I only wish to have them considered merely as auxiliaries, without excluding them from the practice.

PRACTICAL REMARKS,

&c.

THE cases which accompany this tract, will illustrate the attack and progress of Yellow Fever better than I can do by mere general description. I will observe, however, that the patient does not often complain, until he feels pain in the head, and may, or may not, have been conscious of slight rigors preceding it, at an indefinite period of eight or ten hours. There is, at first, tormenting restlessness and weariness, an expression of languor and anxiety in the countenance; the extremities are cool, but there is great heat in the neck and trunk, and the pulse is natural. As the disease proceeds, the pulse becomes more full and rapid; the face swelled and shining; the eyes prominent, inflamed, and often watery; the heat of skin general, and more intense; the restlessness greater,

and the pain more acute. As it continues to advance, the functions of the brain become affected, and the pulse very small, but quick; the countenance indicates the last degree of anxiety and distress; hemorrhagies from the nose and gums take place, and delirium or coma succeeds. These symptoms continue several hours, and perhaps destroy the patient; or a deceitful calm supervenes, when the pains and other urgent symptoms mitigate. The patient, and his attendant, if not acquainted with the disease, think it has left him; but another paroxysm, though less violent from the exhausted state of the system, soon undeceives them. A train of similar symptoms is renewed; if coma or delirium have not yet supervened, they now appear; black vomit is sometimes an attendant, and death closes the scene.

The mental powers are always least affected in those who have black vomit; and, when proper measures are not resorted to at the commencement, irritability of stomach is always distressing.¹

¹ Irritability of stomach is never a primary symptom in this disease, but is merely a consequence of inflammation of the brain; which will be easily understood, by reflecting on the sickness which often succeeds great local injuries.

In all the bodies which I have opened, or seen opened, inflammation of the brain was evident, particularly within the lateral ventricles. Sometimes the stomach and intestines were found inflamed, and even ulcerated. Except in a few cases, the liver never exhibited marks of any active disease; chronic enlargement, and indurations of this organ, were found in a few; and the gall bladder was, in general, filled with a thick, viscid, black fluid, in those who died after having black vomit. But often the contents of the gall bladder, and stomach, had the appearance of coffee-grounds, and could not be distinguished from it by the eye.¹ Young and robust people, newly arrived from Europe, are much more liable to be attacked by yellow fever, and have it in a much more violent and concentrated form, than others; because their constitutions more readily take on high inflammatory action. It prevails, as general disease, only in the hottest seasons. It is first observed, and is much more indiscriminating, general, and fatal, in the lowest, hottest, closest, and dirtiest quarters of the several towns which are subject to it; and which, for commercial rea-

¹ This is a fact denied by several writers on Yellow Fever.—Dr. Physick, &c. &c.

sons, are almost all situated to leeward, where, nearly under a vertical sun, the heat and closeness are increased beyond conception. When persons labouring under the disease, are carried into high, cool, and airy situations, it will run its course with nearly equal violence, but is more under the controul of medicine.¹ These facts, if properly appreciated, I apprehend, will go far to prove that fever in the West Indies is never propagated by contagion. If it were contagious, why should it prevail only at particular seasons, and almost exclusively attack people of a certain age, and constitution of body? Why should it be confined to particular places, under particular circumstances? Why was it never known to be communicated from one person to another, where neither heat nor miasmata were favorable to its production? And why does exercise in the sun, abuse of ardent spirits, and other causes of an inflammatory state of the system, produce a fever often attended with black vomit; and which cannot be distinguished by its symptoms from what is *called* bulam fever, but

¹ "The action remains for some time after the agent is withdrawn. If this were not the case, we should always be able to cure a disease, by removing the exciting cause; which no one expects to be able to do."—*Burns on Inflammation.*

because it is not so general?—for its causes are never so general.

Dr. PYM has taken up the pen, as he says, to advocate the cause of humanity; and certainly, on a subject of such mighty importance as the present, every man ought to give his opinion, and has a right to be heard: but as I conceive the *tendency* of his work to be highly dangerous, I shall take the liberty of making a very few remarks on the original part of it—I mean on that part, where he divides the fevers of the West Indies into three kinds. His own words, the authorities he quotes, and the result of my own experience, have led me to conclusions very different from those which he has adopted: but I am a young man, and it would not become me to be dogmatical; yet, as I do not entertain the least doubt of the truth of my principles, why should I propose any of them in the form of a doubt?

“The first variety of the disease,” says Dr. PYM, “assumes such a diversity of forms and symptoms, owing to the constitution of the patient, the heat of the climate, and the degree of the concentration of the marsh miasmata, that it is impossible at its commencement to draw a diagnosis between

it and the two others: as it gets farther advanced, however, the skin becomes of a *deep yellow colour*, and *if its termination is likely to prove salutary*, it shows its characteristic mark by a remission and succeeding exacerbation; and if it proves fatal *without evident remission*, which in its more violent form it sometimes does on the second or third day, *it is very rarely, if ever*, attended with the fatal symptoms *peculiar* to bulam fever, viz. the black vomiting, and a peculiar bloated appearance of the countenance. In the second variety, or continued bilious fever, the head-ach is confined chiefly to the temples, the pulse is fuller, but not so quick as in the two others; the yellowness appears very early in the eyes, sometimes from the first moment of attack, and on the second or third day, the whole body is tinged of a *very deep yellow colour*; it is not attended with the same degree of irritability of stomach as *in* the first and third varieties, has no remission or exacerbation *deserving the name of paroxysm*, but runs its course as a continued fever, in from five to fifteen days, *and when terminating fatally*, is not attended with black vomit. In the third variety, or bulam fever, there is at the first attack, a peculiar shining, or drunken appearance of the eyes, the head-ach is excruciating, and confined to the orbits and forehead;

has no remissions, when it terminates *favourably*; is very *rarely* attended with yellowness of skin, which, *if it does take place, is of a pale lemon colour*; it runs its course in from one to five days, is attended with a peculiar inflammation of the stomach, which *in most cases that prove fatal* terminates in gangrene, or in a diseased state of that organ, accompanied with a vomiting of matter, resembling coffee-grounds, and a livid or putrid appearance of the countenance, which it is impossible to describe; but those wishing to form an idea of it, may see what I call its fac-simile, in the countenance of any person with a florid complexion, during the burning of spirits of wine and salt in a dark room, as is practised in the game of snap-dragon, during the Christmas gambols."

These are Dr. Pym's definitions of what he calls the three varieties of West-Indian fevers; and I believe that more confused, contradictory, indefinite descriptions, are not to be met with in the annals of modern medicine. In the first variety, or remittent bilious fever, he says, that it is impossible at its commencement to draw a diagnosis between it and the two others; as it gets farther advanced, however, *the skin becomes of a deep yel-*

low colour, and if its termination is likely to prove *salutary*, (now who ever heard of a disease, with its commencement or termination proving salutary?) it shows its characteristic mark by a remission, and succeeding exacerbation; and if *it proves fatal, without evident remission*, which, in its more violent form, it sometimes does on the second or third day, *it is very rarely, if ever, attended with the fatal symptoms peculiar to bulam fever*, viz. the black vomiting, and a peculiar bloated appearance of the countenance. Dr. PYM has the honour of discovering remittent fevers, *without remissions*, and having symptoms *peculiar* to another disease. When it terminates on the second or third day, and it is impossible to draw a diagnosis between it and the two other varieties, and it is attended with the symptom *peculiar* to one of them, and the exciting causes of it are so general and so powerful as to render it epidemic, how are we to distinguish between the one and the other? “When it proves fatal, without evident remission,” he says, “it is *very rarely, if ever, attended with black vomit* :” then if this remittent fever should happen to have remissions, I suppose it is *often* attended by the symptom *peculiar* to bulam fever. “In the second variety, the whole body,” he says, “is tinged of a *very deep yellow*, like the violent form

of remittent, and, like the bulam fever, it has neither remission nor exacerbation, *deserving the name of a paroxysm*, and when ending *fatally*, is not attended with black vomit;" but if it proves *salutary*, I suppose it is often attended with it. "In the third variety, or bulam fever," he says, "at the first attack, there is a peculiar shining or drunken appearance of the eyes, the headach is excruciating, and confined to the orbits and forehead; like the violent form of the remittent, and like the continued bilious fever, it has no remission; the skin becomes of a *pale lemon colour*; there is often black vomit; and the appearance of the countenance, which cannot be described, is most beautifully illustrated by the game of snap-dragon. After giving these diagnoses, as we are to call them, he adds, "In mild cases, however, of this disease, (his bulam fever,) it is impossible to point out any symptoms distinguishing it from attacks of fever from any cause, until the fatal symptoms make their appearance." Therefore, until the symptom *peculiar* to bulam fever, and which *sometimes* attends the remittent, appears, it is impossible to point out any symptoms distinguishing it from attacks of fever from any cause. What then becomes of Dr. Pym's definitions of his three varieties, if they be of no use in distinguishing the

one from the other? And what is the use of a diagnosis which leads to no practice, and gives no information, until *fatal symptoms*, which are sometimes attendant on other diseases, appear? By allowing, that what he calls the bulam fever often assumes the character of other fevers, and that the remittent sometimes assumes its *peculiar* symptom and violence, he himself points out the futility of attempting to convert varieties into species; and shows, that it is in degree, and not in nature, that these attacks of fever differ from each other, as well in the south of Europe, as in the West Indies. As he has only called the most violent form of this disease bulam fever, we might naturally expect that it would run its course more rapidly, and be more frequently accompanied by black vomit.—His diagnostics may be reduced to these,—that in the first, or the remittent, the skin becomes of a *deep yellow colour*; in the second, or continued, of a *very deep yellow*; and in the third, or bulam, of a *pale lemon colour*; in the first, black vomit sometimes occurs; in the second, never; and in the third, often. The mere statement of these definitions demonstrates, that the diseases in question are but grades of the same affection. The black vomit is the only *peculiar* symptom of bulam fever, and this *peculiar symptom* sometimes attends the

remittent. The drunken appearance of the eyes takes place in bad fevers of every type; and I have seen the bloated countenance precede death in many diseases, as well in Europe as in the West Indies. Besides, the black vomit is not peculiar to fevers of any kind; I have seen it succeed an attack of hæmatemesis, and several cases are on record, where it has been an effect of gout, enteritis, scarlatina, measles, and other diseases.

Having given a brief statement of Dr. Pym's doctrine, I shall proceed to lay before the reader as short and clear a view as I am able, of the forms under which I have seen the fever of this country. I shall give several cases which occurred on our first arrival in it; and in which, as we knew not how to treat them, black vomit occurred, and death of course followed. In some, remissions took place; others were continued; in some, the skin became of a deep yellow; in others, of a very deep; and in some it remained of the natural colour; so that whatever symptoms may be fixed on, as characteristic of bulam fever, they may be found in several of these cases; which, occurring at the same period, in the same ship, and to the same ship's company, will show what variety of forms the fever of warm climates will assume, according to different *circumstances*.

Immediately after our arrival at Barbadoes, in March, 1816, (when the inhabitants of Bridgetown were perfectly healthy, and before we had much communication with the shore,) a fever, characterised by all the symptoms which Dr. Pym has attributed to bulam fever, made its appearance on board the Antelope. One hundred and ten cases occurred while I remained in her, of which thirty-one died. Of those thirty-one, nine had either lived entirely in the fore or after cock-pits, or messed, and consequently passed the greater part of their time, there. None who had black vomit recovered; and of the thirty-one who died, eight only had it; and of those eight, six were of the nine mentioned above, as living almost entirely below, where the air was thick and heavy, and produced a peculiar hot sensation, on descending into it; the temperature did not vary as on deck; candles were continually burning; several people were crowded together; the debris of pantries and mess-rooms not always exceedingly clean, were often in a state of fermentation, and there was no circulation of air. These facts account for the greater proportional number of those who were obliged to mess below, having a more violent disease, of which black vomit and death was a more frequent consequence. If we

compare the number messing below, with the rest of the ship's company, and estimate their relative mortality, we shall find that, in the cock-pits, out of twenty, all but two had very severe attacks, and nine died; while, in the other parts of the ship, only a third were attacked, and not a fourteenth died: and that a third of the cases from the cock-pits had black vomit, while this symptom occurred only in one forty-sixth part of those from the lower and main decks. These are no trivial distinctions, —they demonstrate this disease modified in its phenomena and results, by situation alone.

The following cases are not given with a view to recommend the same practice, which, as we were strangers to the disease, and followed the directions of those who had gone before us, and of some in high repute in the country where we met them, was extremely *tame* and dilatory; and the conjunction of *sub. mur. hyd.* and *carb. amm.* absurd in the greatest degree, though recommended to us by high authority. Venesection, which is the *only* method of curing it, was in some cases neglected; in one or two performed in the latter stage, when it is evidently useless; and in others, though at the commencement, yet too sparingly to produce any good effect.

They were neither written for public inspection, nor to support, nor overthrow any theory; but as their introduction here, will point out the different features which the inter-tropical fever assumes, and the necessity of decision in the practice, I trust they will be found not entirely useless.

CASES

*Copied from the Medical Journal of his
Majesty's Ship Antelope.*

CASE I.

Barbadoes, March 19, 1816.

HIS Majesty's ship Antelope arrived here, from England, on the 2d instant. Her crew had been remarkably healthy during her passage, though the weather, until we reached the trades, had been extremely severe, and no case of fever occurred till noon yesterday, when the Rev. Mr. BARRON, the subject of the following case, was attacked. The fever commenced with headach, succeeded by heat of skin, and a full and strong pulse; the eyes were prominent and watery, and he felt great prostration of strength. He took at bed time five grains of calomel, which have had no effect. The pulse is now 106, and strong; tongue foul, and covered with a brown crust; the thirst is moderate, and he complains as yesterday.—*Pulv. R. Rhæi et Jalapæ a.a. drachm. semiss. (misce.)*

20th.—The cathartic produced several bilious evacuations. His appearance and complaints are as before.—*V. S. ad uncias viginti tres.*¹ *R. Carbon. Ammon. granas tres tertiu quaque hora. Habeat Calom. gr. v. quater in die.*

21st.—Vomiting followed every dose of the carb. amm., which was in the evening omitted. The calomel appears to have relieved the nausea. He has been purged freely, the fœces have the appearance of newly secreted bile; yawns very often, and complains of a burning sensation in the throat.—*Augehur dosis Calom. ad scrupulum ter in die.*

22d.—The yawning, and burning sensation in the throat, continue; he rested tolerably well last night, and his countenance is now more lively; P. 96, skin of a natural temperature; has had one bilious evacuation.—*Habeat. Calomel. scrupul. ii. octava quaque hora. repetet. Carb. Ammon. gr. x. secunda quaque hora.*

23d.—Yawning still continues; hiccup, with a convulsive motion of the thorax on deglutition, came on this morning; tongue black, but begins to look clean at the edges, and is moist; pulse and skin natural. Expectoration of a black colour; has had five stools of the consistence and colour of pitch.—*R. Pulv. Rad. Rhei. gr. v. Carb. Magnes. Carb. Ammon. a.ā. gr. v. (misce) continuet Calomel. et habeat. decoct. marant. ad libitum.*

¹ Here the fever had existed nearly three days before venesection was had recourse to.

24th.—He has been restless during the night, and has been purged four times; fœces have the same black appearance. The debility is now so great as to induce syncope on his being placed erect. The mouth and surrounding parts are tender, and the teeth are covered with black sordes; pulse strong.—*Contr. Calom. et decoct. ul anlea.*

25th. - Yesterday a discharge of blood took place from the gums and fauces, and the hiccup was very severe. The carbonate of ammonia was ordered in four grain doses, at intervals of three hours, and combined with a small quantity of æther. At 5, p. m. he had one black stool, mixed with blood; he now appears a little better. The blood continues to flow from the mouth; vibices are likewise spreading over the body; singultus is distressing; had no stool since last night.—*Cont. Calom. et decoct.*

26th.—Last night he was at times incoherent, and the discharge of blood from the nose and mouth was more profuse. At 8, p. m. he took ten grains each of rhubarb and magnesia; he is now lying on his back in a state of stupor. The singultus is incessant, and the discharge from the month increases, and evolves a gangrenous fœtor; pulse 108, and strong; no stool.—*Contr. medicament.*

27th.—It has been observed, that he is always better before than after noon, though the change could not be called a remission. Was last night unusually restless, and the extremities very hot. He is now comatose; hiccup not so frequent; pulse 112; skin at the wrist colder

and more relaxed than natural; body dry, and morbidly hot; no discharge to-day from the nose or mouth; tongue clean; has had one black stool.—*Contr. Cal. et Carbon. Ammon.*

28th.—Had two stools yesterday, one very copious and black. About 7, p.m. a profuse discharge of blood took place from the fauces; he was then incapable of swallowing, and he remained from that time in a declining state till 5. 30. this morning, when he expired. The body was examined, and, as far as I could observe, there was no disease in the whole course of the intestinal canal, except a slight appearance of inflammation near the cardiac orifice of the stomach, which might have been caused by the ammonia, and frequent vomiting. The stomach and intestines, as well as the gall bladder, were filled with the coffee-ground-like fluid, and the liver was firmer than natural, and of a light brick colour.

CASE II.

Barbadoes, March 30th, 1816.

Mr. SMITH was attacked this morning with severe headach, extending from the occiput towards the temples and frontal sinuses, drowsiness, and general lassitude; pulse 108, full and strong; face full and flushed; eyes watery and shining; had a stool yesterday.—*F. S. ad uncias xxx. et R. Pulv. Jalap Comp. drachmam et Calom. gr. v.*

31st.—Yesterday, at 1, p.m. the venesection was repeated to 38 oz. Has had no stool; pain on opening the eyes; the skin is hot and pungent; tongue clean; pulse 108, strong and full; is covered with nettle-rash, and is comatose; syncope on sitting up; bilious vomitings.—*Repet. V. S. ad uncias 24, Habeat affus. frigid. Applicet. vesicat. Epigastrio Habt. Pulv. Jalap drachm. semiss.*

April 1st.—At 1, p.m. yesterday, he took an ounce of the *aqua. amm. acetal.*; and at 5, calomel, in scruple doses, was ordered every sixth hour. He has vomited twice during the night, and has had four alvine evacuations; pulse 108; skin rather hot; tongue clean, but dry; nausea and thirst; wishes for tea.—*Contr. Calom.*

2d.—At noon, yesterday, the nausea increased, and the stomach became very irritable; at 12. 30. took a scruple of calomel, and had two copious evacuations, after which he felt easier. At 5, p.m. vomiting returned, and five grains of carbonate of ammonia were ordered every second hour. Has had three copious stools, very foetid and green, and two very scanty ones, mixed with specks of a chalky appearance; skin and countenance more natural; pulse 96; tongue clean; nausea continues.—*Contr. Calomel et Carbonas Ammon.*

3d.—Has had three mucons stools, mixed with bile; has been very restless last night and this morning; pulse 84; nausea and retching distressing; ejecta of a black coffee-ground appearance.—*R. Capsici gr. tres secunda quaque hora, et vin. ad libitum.*

4th.—At 6, p.m. yesterday, a scruple of calomel was ordered every second hour; at 10, black vomit appear-

ed, and he became more restless and distressed; pulse natural; heat of skin moderate; gastric irritability constant. At 1, a.m. this morning, severe convulsions came on, and he died at 4, a.m.

CASE III.

April 16th, 1816.

GEORGE MORGAN, (M.) was attacked last night about 12 o'clock, with rigors, succeeded by heat of skin, pain in the middle of the forehead, loins, and extremities; vertigo and great thirst. Has no pain in the eyes; tongue white and clammy; pulse 96, and small; skin cool; features shrunk; bowels regular. — *R. Cal. gr. v. Pulv. Jalap drachm. semiss. stat. sumend. et Capiat. h. s. Cal. gr. x. et Pulv. antim. gr. 6.*

17th.—Had two stools yesterday, and was purged freely last night; he now complains of increased pain in the head; pulse 72, full and strong; skin hot, dry, and pungent. — *R. Cal. gr. x. mane nocteque. Abradant. Capillæ et applicet. vesicat. capiti.*

18th.—Is much purged. The pulse, as well as the heat of skin, has fallen to the natural standard; debility very great; his eyes are turned up, and the appearance of the countenance is ghastly. — To have as much stimulus as he can be got to swallow.

19th.—Yesterday, at 4, p.m. black vomit appeared. Wine was given in as large quantities as possible; but this fatal symptom became more and more distressing

till half-past 6, when he expired. Nothing like remission could be perceived in this case, and the skin was but slightly tinged of a pale yellow colour. He ought to have been bled, and largely, on the morning of the 17th. He died of congestion in the brain.

CASE IV.

April 12, 1816.

WILLIAM CLAPCOTE appeared this afternoon labouring under a considerable degree of fever. He has had no stool for the last week, and has been occasionally indisposed during that period. His complaints are confined to the head and epigastrium. Pulse 110; skin dry and pungent; tongue black and furred; is much emaciated.—*R. Cal. gr. v. Rad. Rhæi. drachm. semiss. (misc.)*

13th.—He was purged freely last night, and at 8, p.m. took ten grains of calomel. He has now the same appearance and symptoms that he had yesterday.—*Ha-beat Calom. gr. x. tertia quaque hora.*

14th.—The calomel was given as ordered yesterday. Until this morning, the symptoms, &c. remained the same. He declined suddenly, and died at 10, a.m.

The body was examined; and from the lower part of the œsophagus to the rectum, there was found a continued series of ulcers on the internal surface of the intestinal canal. About the situation of the ulcers, the coats of the intestines and stomach were thickened; the ulcers were from the size of a sixpence, to that of a shil-

ling, and had the appearance of venereal sores. The whole canal was filled with black vomit; the contents of the gall bladder were also black, but of a different consistence from those of the stomach, &c., being viscid.

CASE V.

April 13, 1816.

GEORGE DOWLEY, (M.) a very robust young man, has taken 160 grains of calomel, and rubbed in 173 drachms of mercurial ointment, since the 30th January, for the cure of chancres; and is now continuing the mercurial frictions. He was attacked, last night, with pain across the forehead; pain in the eyes, aggravated on motion; his face flushed, swelled, and shining; pulse 108; tongue dry and foul; skin hot; bowels open. He was bled this morning to the extent of thirty ounces, and he took half a drachm of jalap.

14th.—Yesterday afternoon, the heat having returned with increase of pain, at 3, p.m. he again lost thirty ounces of blood, which removed the pain; and he took five grains of antimonial powder, and ten grains of calomel, at bed time. The pain has re-appeared, and he complains much of his eyes and back; the heat of skin is also considerable.—*R. calom. gr. x. tertia quaque hora, applicet. vesicat. capiti et repetat. F. S. ad syncopen.*

15th.—Thirty ounces of blood were yesterday taken away, which relieved his complaints. At 3, p.m. the blister was removed, and the calomel omitted, in conse-

quence of tenesmus. The blood exhibited the buffy coat. At 8, p.m. vomiting came on, when ten drops tinct. opii and an ounce of wine were ordered every second hour; a large blister was at the same time applied to the epigastrium. The stomach is less irritable, and he has little or no pain.—*Contr. medicament.*

16th.—The vomiting was not so distressing yesterday, but last night it returned with violence, and every thing prescribed was immediately rejected from the stomach. Had an emollient enema; to have diluted spirits, wine, or any thing he may wish for.

17th.—Yesterday he drank eight ounces of spirits, and the retching and vomiting went off. In the evening he wished for some cheese and porter, which was given him. The skin is dry, and the tongue cleaner.

18th.—Was better yesterday, and eat with considerable appetite; had no complaint, nor heat of skin. Has passed a better night than usual; no stool. Continue the stimulus.

19th.—Was pretty well yesterday, and has rested well in the night. Is to-day incoherent at times; his eyes are suffused of a deep yellow colour.—*R. calom. gr. x. applicet. vesical. capiti.*

20th.—Still incoherent at times; complains of dysuria. He has been taking calomel and opium periodically, and in considerable quantities; the eyes are not so deeply tinged.—*Contr. medicament.*

21st.—He died this morning, about half past 3 o'clock. The stomach contained the coffee-ground-like fluid.

CASE VI.

Nov. 1, 1816.

Mr. GEORGE CARTER has been troubled with gastric irritability, for the last four mornings; and about 8, a.m. to-day, he was seized with rigors, followed by head-ach, thirst, and great irritability of stomach. The skin soon became very hot and pungent, the vascular action much increased, and great determination to the head; has only had one stool the last four days.—*V. S. ad syn- copen. habeat affus. frigid. et capiat. cathart. ex calom. et Julap.*

2d.—Yesterday forenoon, forty-two ounces of blood were taken away, and the cold effusion was twice applied. At half-past 12, an enema was given, and at 1. 30. the cathartic as ordered. At 8, p.m. he began to take calomel, in ten grain doses, every fourth hour; the heat and re-action are still very great. His shirt and bed-clothes to be kept continually wet, and the cold effusion frequently employed.—*Contr. calomel.*

3d.—Has had three copious, fætid, brown-coloured stools; the temporal artery was opened, but did not bleed freely. The skin is burning to the touch; pulse small, but rapid; tongue very foul; has a more lively appearance.—*Applicet. vesicat. magn. capili. et contr. calom.*

4th.—Was freely purged yesterday; was frequently incoherent; vomited several times in the night, and had constant intellectual wanderings. Black vomit came on this morning, and he expired at 10. 15. a.m.

In this case, there was no remission, and the skin remained of its natural colour through the whole course of the disease, and for several hours after the young gentleman's death. It is impossible to doubt, but that this patient would have been saved, had venesection been boldly employed on the second or third day, instead of trifling, as we did, with blisters and the cold affusion.

CASE VII.

November 30, 1816.

HENRY FAIRTHORN has been occasionally complaining of headach, which appeared again this morning, though only in a slight degree. The pulse is natural; skin cool; and bowels regular.—*R. Calomel. gr. v. Pulv. Jalap. drachm. semiss.*

December 1st.—Was purged freely yesterday. Vomited during the night, which relieved the headach. There is no heat of skin, nor quickness of the pulse; but his countenance has a livid, bloated appearance.—*V. S. ad uncias xxx. et capiat. Calom. gr. v. quarta quaque hora.*

2d.—No serum separated from the crassamentum of the blood taken away yesterday, which was firm. He has not passed a good night, and is now very restless; skin cool; pulse natural.—*Habeat. Calom. gr. x. quarta quaque hora.*

3d.—Last night his breathing was laborious, and he vomited occasionally. Is much the same as yesterday,

and has got up and dressed himself.—*Auget. dosis Calomel. ad scrupulum quarta quaque hora.*

4th.—Last night, his eyes, face, and neck became deeply tinged of a yellow colour. At 7, a.m. he got up, dressed himself, and took the calomel as ordered; at 8, black vomit appeared; and at 10, a.m. he expired.

In this case, neither remission nor exacerbation could be observed; nor was there, at any time, increased vascular action. Indeed it could hardly be called a case of fever.

CASE VIII.

February 25, 1817.

SAMUEL MONTEITH returned from shore four days ago, having had three days' leave.

Early this morning, he was attacked with rigors and headach. At 5, a.m. when first seen, very little reaction had taken place, and he only had the cold affusion. The pain over the eyes is now more severe; pulse 80; heat of skin different in different parts of the body; tongue foul, and covered with a yellow fur.—*R. Calom. gr. v. quarta quaque hora, et applicet. vesicat. Capiti.*

26th.—No difference in the symptoms can be observed.—*Contr. Calom.*

27th.—He has had two evacuations; mouth sore; gums swelled, dry, and parched; pulse and skin natural.—*R. Mist. Salin. semunciam quaque hora, et Contr. Calom.*

28th.—Has had one stool, and complains a little of

nausea; mouth sore, but no ptyalism; has some inclination to eat.—*Contr. Med. ut heri.*

March 1st.—The nausea increased last night, and the skin became hot and dry; in the evening, the saline draught was given in the state of effervescence. Has had several scanty stools in the night, and complains less.—*Contr. Mist. Salin. et calom. ut Antea.*

2d.—Hæmorrhage from the mouth has appeared; gums are sore, but no ptyalism; he complains of soreness in the alimentary canal. To take small quantities of bark and sulphuric acid, with a gentle cathartic.—*Omit. calom. et mist. salin.*

3d.—Last evening he had an enema; several black stools came away in the night; nausea; pulse 72, and full; a yellow suffusion appears on the skin.—*Contr. Pulc. Cort. Cinchon. et habeat Vin. vel Spirit. ad libitum.*

4th.—Vomited the coffee-ground-like matter several times in the night; hiccup has come on; countenance of a chocolate colour; pulse 84.—*Cont. Vin. vel. Spirit. ad libitum.*

5th.—Singultus more constant and distressing; continues occasionally to bring up the black vomit; has had one liquid stool of an olive colour; tongue parched and dry.—*Contr. Med. ut heri.*

6th.—Lingered till 1. 30. p.m. yesterday, when he expired.

The body was examined, and no active inflammation could be perceived on the internal surfaces of the stomach or intestines, but they were filled with the black vomit; and a very black viscid matter was contained in

the gall bladder, which had a slightly bitter taste. The contents of the stomach had no taste.

On adding a few drops of sulphuric acid to a little of the contents of the gall bladder, mixed with water, no oily matter rose to the top; but there was a copious precipitate of a green colour. A few drops of muriatic acid caused an immediate precipitation of a whitish yellow sediment: on adding to this mixture a little liquor ammoniæ, the precipitate was dissolved, and the solution became of a green colour. Alcohol coagulated the undiluted contents of the gall bladder; but the liquor ammoniæ produced no change on it. Sulphuric acid produced no effect on the contents of the stomach, neither did alcohol; but muriatic acid, undiluted, coagulated, and turned it of a reddish brown colour. The contents of the gall bladder, and stomach, according to these experiments, exhibited qualities different from either blood or bile, and from each other.

THESE are fair specimens of the fever which raged in the Antelope. They show the various forms and characters which the inter-tropical fever assumes; and the utter uselessness of mercurials, cathartics, and even venesection, unless employed earlier, and to an extent far greater than has hitherto been done. In August, 1816, a disease broke out on board the Childers, brig, while anchored in the Gulf of Paria, off Port Spain, Trinidad,

where the squadron had gone to pass the hurricane months. As her surgeon and assistant were both attacked, I volunteered to assist MR. BROWN,¹ of the Scamander, in taking care of the sick. At that time, twenty-six, out of ninety-six men, were labouring under a disease which made its appearance by the same circumscribed pain in the forehead, affection of the eyes, variable pulse, hot, dry, pungent skin, and succeeding irritability of stomach, which ushered in the disease on board the Antelope. It first appeared on the 13th; we left Trinidad for Barbadoes on the 19th, and arrived there on the 27th. About thirty died before we reached Barbadoes. Only one had black vomit before I was attacked with the disease, and became totally incapable of attending to its progress or phenomena: but I learned from the officers, that four had it afterwards, and that only eight of her crew escaped an attack.

The disease on board the Childers was attended by a much greater mortality than that on

¹ This gentleman has, since that period, left the service; and in him it has lost one eminently qualified to improve and adorn the medical profession. His various acquirements, his accuracy, and powers of observation, were excelled only by what is of far more importance in a medical man—his assiduity and kindness to the sick under his care.

board the Antelope: for this difference of termination, the following circumstances will readily account. The Antelope was in good order, clean, and well aired, with the exception of the cockpits, as already mentioned; consequently, only those particularly exposed to the exciting causes, or susceptible of the influence of the disease, were attacked by it. The Childers was the opposite of all these—in bad order, dirty, and crowded with lumber of every description; so that only eight of her crew escaped an attack, and nearly half died. On board the Antelope, twenty-five died who had not black vomit; on board the Childers, five who had black vomit. Can we say, that the twenty-five who died in the Antelope, without black vomit, had a disease different from that which affected those who died about the same time, with similar symptoms, but who had also the additional one of black vomit? Or was the fever, in the five cases of black vomit in the Childers, different from that which destroyed so many persons in her, at the same period, without that symptom? The clean and well-aired state of the Antelope's lower deck, accounts for the disease not running through the ship's company, and for its comparative manageableness; but the mortality and liability to attack, were equal

among those who lived below in the Antelope, and those who lived in a similar hot and vitiated atmosphere, on board the Childers. When the hatches were lifted off the fore or after holds in the Childers, a horrid suffocating stench issued from them. It was ascertained, that a candle would not burn in the fore-hold. When she was afterwards cleared out at Antigua, many tons of black, slimy, stinking mud, were taken out of her; nor do I recollect that it was attempted to ventilate her by wind-sails. This state of the vessel, the want of attendance, and a healthy place to remove the sick into, with the sudden fate of the medical officers, account for the mortality on board of her, and for the disease attacking almost all her crew. We see then, a most remarkable coincidence between the extent and mortality of this disease in the Antelope's *cock-pits*, and on board the *Childers*, where the circumstances, as I have stated them, were the same. We see the influence of the climate modified by the different circumstances of the two ships, and by the different situation of the parts of the same ship.

The contradictions and disputes concerning the nature and cure of this disease, are a reproach to the art of medicine. Nothing can more clearly

exemplify these contradictions, and show the loose and fallacious reasoning of those, who assert that fever is of different kinds in the West-Indies, than the discordance of opinion concerning the fever on board the *Antelope* and *Childers*. One party maintained, that the fever on board the *Antelope* was the *bulam*, and that on board the *Childers* the bilious remittent: others asserted the very opposite; and called the fever on board the *Childers* the *bulam*, and that in the *Antelope* the remittent, or sporadic bilious fever: one called the fever in the *Childers* the plague of Malta, Syria, &c. &c.; others again differed from all the rest, and asserted that the disease, both on board the *Antelope* and *Childers*, was a combination of typhus with the fevers of the country!

It is much harder to examine and judge, than to take up opinions on trust; and, therefore, the far greater part of men borrow their opinions from others. A fever, possessed of characters different from the common fever of the West-Indies, having been described by men of some reputation in the medical world, the gentlemen above alluded to, thought it incumbent on them also, for the honour of their discriminating powers, to perceive the difference; and the incongruities no-

ticed above, are the natural result of their preconceptions. There is a variety in the shades of this disease; every individual case possesses something peculiar; but, in all, we perceive the same general characters—in all, we trace a family likeness. I have frequently seen upwards of thirty persons labouring under it at the same moment; and I can aver, that I never saw two cases exactly alike; yet I never thought, in consequence of this dissimilarity, to describe every individual case as a different disease. From observing that, in every case, the symptoms were, circumscribed pain in the forehead, pain in the eyes, particularly on pressure; that all were alike characterised by irritability of stomach; that in those who had black vomit, the skin was sometimes deeply tinged of a yellow colour; sometimes a little, or not at all: I say, having observed all the essential and characteristic features to be present in every case, I am of opinion, that medical observers, in the too eager pursuit of discovery, have been inclined to overlook the thousand phenomena which establish the identity of this fever; and to find out, and magnify, the incidental irregularities which occur in it, as well as in every other disease.

The Brazen, under circumstances somewhat

similar to those of the Childers, lost twenty-four, out of eighty-four men. I do not mean to say that she was dirty, or in bad order; but her lower deck is narrow, crowded, and has neither ports nor scuttles, with two decks above it.

The different degrees of mortality exhibited in the different ships of this little squadron, according to their different degrees of discipline, cleanliness, and ventilation, sufficiently prove, that all these appearances have the same origin, and are effects of the same cause, modified, as we have seen, by different circumstances. "The symptoms which take place during the formation of an action, are lassitude, anorexia, coldness, headach, and thirst. These always occur and precede actions, the most dissimilar one to another."¹ But the susceptibility of the patient, or the strength of the exciting causes, may induce the febrile action so rapidly, that we have no time to attend to the periods of formation; and it is owing to these causes, that fever is so infinitely varied in its phenomena. The same diversity of symptoms that characterised the fever in the squadron, was ob-

¹ See Burns on *Inflammation*.

served to be general throughout the various islands, both among the troops and inhabitants.

Many years have elapsed, since the Leeward Islands suffered so much from fever, as they did in the end of 1816, and the beginning of 1817; and as the first case occurred on board the *Antelope*, immediately after her arrival, and appeared in its most aggravated form, an ingenious theorist might thence attempt to prove, that she imported it from England to Barbadoes, where it was brought to maturity by the heat of the climate.

Dr. FERGUSON, Inspector of Hospitals, whose experience of the climate and fevers of the West Indies, entitle his opinions to the utmost deference, has, with much kindness and condescension, furnished me with the following facts, respecting the attack of this malady, as affected by local circumstances.—He says, that “on the tops of mountains, and in all elevated situations in the West Indies, the only fever known to exist, is the ague or intermittent; as you descend, you find the remittent in a mild form; still lower, it assumes an aggravated type, until at last, on a level with the sea, in the crowded, ill-ventilated towns, and over the beds of dried up rivers, it appears in all its

dreadful and destructive forms; rapid in its course, continued, fatal, and often accompanied by black vomit. It has also been observed, that in very dry seasons, the ague appears in lower situations, and the remittents are found higher in wet ones." These facts have been amply confirmed to me by respectable practitioners, in various islands; and I conceive that they are perfectly conclusive in establishing the identity of this fever; and that they will account for its prevailing epidemically, according to the season.

Dr. Pym asserts, that the form of fever which he has called bulam, is of foreign origin: with respect to which position, I ask, do the causes which produce it exist no where but in the island of Bulam? Did the Antelope bring it from England to Barbadoes, where it raged shortly after her arrival, both among the troops and inhabitants? Or did the French vessels, which brought the troops to take possession of Guadaloupe and Martinique, bring it with them from France? Why are some particular islands, and only parts of those islands, more subject to it than others, as Fort Royal, Martinique, and English Harbour, Antigua? When it has disappeared for many years, as he says it has done, where did it hide itself? And

being so fatal and contagious, how was it concealed, and retained in existence? Has a cargo of this contagion been imported from Bulam, every time the disease re-appeared in different parts of the world?

Dr. BANCROFT'S Essay has laid the question concerning contagion in yellow fever at rest for ever: it must carry conviction to the mind of every man, unshackled by theory. Though my opinion can add little to the force of his reasoning, yet it would be improper to withhold the result of my experience.

On board the *Antelope*, no precaution was taken to guard against contagion, yet of three hundred and twenty men, having the freest intercourse, not above twelve were at any one period attacked with the disease, and only that number once. The surgeon, two assistants, and surgeon-man, were always among the sick, and the last three constantly slept in the midst of them: yet none of these had the slightest attack of fever, for many months afterwards, and then the two assistants only, on being sent, one into the *Brazen*, and the other into the *Childers*. The officers frequently came to see the sick; their messmates

were allowed to visit, wash, and dress them; but no appearance of the fever being communicated by contagion ever occurred. On his being attacked, I lent a pillow to one of my messmates, who died eight days afterward, having had black vomit; yet I slept on it for four months, without having it washed, and without having the least attack of fever during all that period; and I have tasted, and even swallowed, the black vomit of several who died of this disease, without the least ill consequence. On board the *Childers*, only eight, out of ninety-six men, escaped an attack; and every person impelled by duty to remain any length of time on board of her, was seized with the disease. The surgeon of the *Brazen* had been left behind, and on the brig's arrival at Barbadoes, he nobly volunteered his services, and fell a victim to his humanity. Another surgeon, and three assistants, sent on duty into her, had severe attacks; and three clerks, made to act as pursers in her, died in less than as many weeks. This appeared like contagion, but was not; for none of the physicians, surgeons, assistant-surgeons, or nurses, who were constantly with the men and officers, while at the hospitals of Barbadoes and Antigua, were in the slightest degree affected with any thing like this disease. It could only be

got on board the brig, and could not be communicated from one person to another, out of her. At that time, the hospital at Barbadoes was crowded with patients, labouring under various complaints, but none of them caught this fever.

It is true, that, four months afterwards, a physician and assistant surgeon of the hospital, died of fever; but the latter was notoriously given to midnight debauch, and had been up drinking and dancing till a very late hour, the night before he was attacked; and the former had been at a picnic party, on a small island, the day before he was seized with fever, when he had been wading in the sea, and drinking more than usual: on his return it rained, and he was obliged to ride several miles in his wet clothes. Another hospital mate had an attack of fever, after walking into Bridgetown, and drinking more than he had been accustomed to do: and these three are the only cases of fever which occurred at or about the hospital, for several months after the Childers' men were sent there. If the disease had been contagious, would it have spread no farther? and would it not have operated until such a distance of time? Many friends came to see me, and the other officers, while at the hospital; some who had lately come from England,

and had never been abroad before, but there was no instance of any of them being seized with fever. These facts prove, that the fever in the Childers possessed no contagious property. That the immediate and exciting cause existed on board the brig, is evident from what I have said, and from the fact, that her men were taken ill every day, until she was cleaned out; when, as I said, several tons of black mud, in a state of actual fermentation, were removed from her holds, and even the black Creoles employed on that service, were seized with the disease, in a day or two after being on board; and that, since that purgation, up to the present period, she has had but two or three cases of fever!

Every writer who treats of this disease, and, among the rest, Dr. Pym, asserts, that it first appears, and always rages with the greatest violence, in the lowest, closest, and dirtiest parts of the several towns which are subject to it; which assertions, I consider, as corroborating the justness of the view I have taken of it. The disease running through every member of a family, when it once appears amongst them, is no proof of its being contagious; for every such member must have been exposed, in nearly an equal degree, to its re-

mote causes: but, on the other hand, its not running through every member, is a strong argument against its being contagious.

This disease is, in all cases, endemic; it is the result of the influence of a hot climate, modified by all the circumstances I have already mentioned, and perhaps by many others; and it is the different nature and degree of these modifying circumstances, that determine its shades and appearances.

I shall now proceed to state the method of treatment which I have found so successful, and which I have undertaken to recommend.¹

The deranged actions of the arterial system, the morbid acuteness of feeling, the ardent heat of skin, the violent pain, particularly of the head, are most certainly unequivocal signs of inflammation; and the succeeding debility, mental wanderings, and symptoms of approaching putrefaction,

¹ The idea of carrying the depleting principle to the extent which I have done, first arose from the suggestions of MR. JOHN NEILL, surgeon of the Antelope. If zeal and ability in his profession; if a well informed and active mind; if unwearied kindness and attention to the sick under his care, constitute the chief merits of a medical man, he deserves the highest honours of his profession.—It is his opinion, that “the first present which Heaven has bestowed on man, is to be useful to his fellows, and to teach them truth.”

are but terminations of it, and succeed with a rapidity proportioned to the violence of the previous symptoms.

In the course of the disease, morbid associations, secretions, and congestions take place; the structure of important organs is vitiated, or destroyed; and these changes give origin to various phenomena, which lead the mind from the contemplation of its general cause, to consider its particular effects. Every fever, however, is inflammatory; and this one is most decidedly so; and venesection alone, employed with boldness, and at the commencement, has any power over it. The debility which often supervenes so rapidly, is, when rightly considered, one of the most cogent reasons for the early and energetic employment of the lancet, as it demonstrates how quickly high inflammation destroys the vital powers.

Blood-letting removes the pain, brings on a flow of perspiration, by which the skin is rendered both cool and soft. It prevents the accession of irritability of stomach, and thus cuts short the disease at once. By its early employment, congestions are prevented from taking place; the inflammatory diathesis and morbid sensibility are removed;

the texture of important organs is preserved;—and such objects can be obtained by it alone.

Several other consequences, of minor importance, follow the proper use of the lancet; one of which is, that the bowels become relaxed, and purgatives, that would have produced no effect before the bleeding, act *freely* after it; and it removes the thirst, frequently so distressing before the operation. But let it be remembered, that to procure these beneficial results, we *must bleed* our patient in the first stage, until the pain be entirely removed, until a copious flow of perspiration appear, and until the morbid heat have altogether disappeared; and *all this* must be done, without regard to any other symptom or consideration whatever.

If it be asked, why bleeding, which has been so often employed for the cure of this disease, has never succeeded to the extent which it ought to do, according to these principles?—I reply, that it has either not been resorted to at an early period, as within twenty four hours,—it has not been carried to a sufficient extent,—or the inflammation has been renewed by wine, porter, or brandy, which are given in most hospitals in the West In-

dies, from the very commencement;—or, lastly, the patients could not be removed from some chief source of the disease, either before or after the bleeding, as in the Childers.

CONCLUSION.

Dr. PYM asserts, that bleeding is inadmissible in bulam fever, though it is the only one of his three varieties, on which, he says, inflammation of the stomach is an attendant; and most authors who recommend bleeding, advise too small a quantity to be taken away, being afraid of debility. But the weakness produced by simple depletion, is very different from that which succeeds violent action: the one only unbraces, the other destroys the springs of life. The symptoms, not the quantity of blood taken away, must guide us in treating this disease. Dr. BANCROFT, after mentioning that “the physicians who have found the greatest benefit from bleeding, insist most strongly on the necessity of bleeding early, to the amount of twenty-four, or even thirty ounces,” appears alarmed at the boldness of such a proceeding; and

adds, "but in mentioning these quantities, it is not my intention to recommend that all patients should indiscriminately be bled to such an extent." Certainly not *indiscriminately*; but I will assert, that the abstraction of thirty ounces will not be sufficient in one case out of thirty, and will do harm in none. In that excellent, and very practicable plan of sending men to the East Indies, to assimilate their constitutions to the climate of the West Indies, Dr. PYM says, that "this assimilation will not protect them from the bilious fevers of the latter country; which," he adds, "are far more destructive to the British army than bulam fever." Even he, then, will allow my mode of treatment, if so successful, to deserve some credit; unless, (as he says that bulam fever has not appeared for the last ten years in the West Indies,) he should take it into his head to assert, that bilious fever had left them also, and thence deny that I had seen fever of any kind.

The recovery, after copious venesection, is beyond all comparison more rapid, more certain, and more perfect, than after any other mode of treatment; and what also greatly recommends this practice is, that no congestions of the brain, liver, spleen, or other internal organ, (which, when life

is preserved by other means, so often renders the remains of it miserable,) ever follows it. This plan preserves the texture of all those organs, on which the powers of the mind, and the health of the body, depend.

Whoever asserts, that his conclusions are the result of experience, assumes a most imposing attitude, and commands attention. I have read, with great care, many authors, whose aim was to prove, that venesection in yellow fever was not only useless, but highly injurious; and they all referred to *experience* as the support and proof of this deduction. As far as I am capable of judging, however, their testimony is mere *assertion*, without *proof*, and deserves neither attention nor respect. Not one of them has, himself, employed venesection for the cure of yellow fever; nor tells why he bled; nor the benefit he expected from bleeding; nor the effects it produced; nor the period of the disease at which it was employed; nor the quantity of blood taken away; nor any circumstance to enable us to form a judgment for ourselves, independent of his mere assertion.

Our modern advocates of contagion and direct debility, appear to emulate those followers of Ari-

totle, who absolutely refused to look through the telescope, so averse were they to open their eyes to any truths inconsistent with their own creed! Truth, it has been justly said, is to the understanding, what beauty is to the eye, and harmony to the ear; but theory bends, prejudice obscures, and interest entirely destroys it. In every non-tangible pursuit, its march has been slow and difficult. The parliament of Paris made it death to bleed in pleurisy, on the side affected; to administer antimony; to teach any philosophy but that of Aristotle:—they also made a decree against the use of potatoes!!

Galileo, who raised science to the heavens, to whom the Genius of Philosophy gave a view of the promised land, which the immortal Newton discovered in a happier age and country—Galileo was obliged to abjure the evidence of his senses, and the results of a long life of laborious investigation, on his knees, before the altar of an ignorant and bigotted priesthood! Such has ever been, and ever will be, the nature of man; prejudice and interest will for ever obscure his perception, and distort his judgment. Hypotheses have ever been a stumbling block in the way of reason; and to all appearance, will ever continue in the school of

medicine, a fruitful Nidus of error and erroneous practice. Should this little Treatise merely induce my medical brethren to divest themselves of theories, and pre-conceived opinions, and to give a trial to the practice which I recommend, the object of its publication will be attained.

CASES OF FEVER,

Extracted from the Sick Journal of his Majesty's Ship Scamander.

CASE I.

April 18, 1817.—5. p.m.

WILLIAM PAWLIN, (Æ. 18,) was brought up last night from the lower deck, where he had been lying for ten or twelve hours, complaining of severe pain in the head, back, and loins; prostration of strength, frequent shiverings, and impatience of light or noise. His eyes were bloodshot, and swelled, as if ready to start from their sockets; the skin very hot; and the arterial action very much increased. A vein was opened in the arm, and fifty-four ounces of blood taken away. During the operation he perspired freely, and vomited an exceedingly large quantity of a crude, indigested matter. After the venesection, he had a copious alvine evacuation; and at 7, a drastic cathartic was given. At 8, the heat, and other febrile symptoms, having returned with increased violence, the bleeding was repeated to thirty-six ounces, which did not entirely subdue the heat of skin, but considerably reduced it, and relieved the pain; vomiting, and free perspiration came on, though it was shortly perceived that neither the morbid heat or arte-

rial action were subdued. As the patient had lost a large quantity of blood, and was of a very spare habit of body, it was thought imprudent, and even dangerous, to carry the venesection farther, (which, I may now remark, ought to have been done; as I am convinced it was owing to this timidity, that the patient afterwards died.) The increase of heat after the last bleeding, was neither rapid nor violent. This morning, at 5, the cathartic was repeated, as the one given last night had no effect; since which time, he has been purged freely. The pulse is now (9, a.m.) good; tongue clean; skin a little above the natural temperature; and his only complaint slight headach.—*Abradant. Capillæ, et applicet. vesicat. capiti.*

19th.—The heat of skin remained nearly the same, till about 10 last evening, when it increased to a very violent degree, and the cold ablution was immediately had recourse to; notwithstanding which, it remained unabated until four this morning, and since that hour it has been decreasing, but is even now much above the natural temperature.

Remark.—Instead of temporising with the cold bath, diluents, &c., venesection should have been had recourse to; and the loss of our patient is to be attributed to the neglect of that important crisis, when the increase of heat, pain, and arterial action, showed the progress of the inflammation.

The bowels have been well opened, the stools being copious and quick in succession.

20th, 9. a.m.—Yesterday he was purged very fre-

quently; the heat of skin, however, remained unabated. In the afternoon he appeared slightly incoherent, and much less irritable than in the morning. At 4, p.m. the heat being very pungent, ten grains of the compound powder of Ipecacuan were ordered to be given every hour, and was taken four times without producing any effect.

Remark.—In spite of every symptom of increased action, and that action oppressing the brain, venesection was again neglected. I hope this is the last time I shall have to record the folly of seeing with the eyes of other people, instead of my own.

During the night, the heat of skin has been much more moderate, though still greater than natural. This morning the pulse, which had continued good up to this period, sunk considerably; he became delirious, and it was difficult to attract his attention; he has since taken a small quantity of camphorated mixture, and remains in the state I have just described.—*R. mist. Camph. et stimulant. Vin. vel Spirit. ad libitum.*

21st, 9, a.m.—He remained all day yesterday in a comatose state, unless when roused, and then he answered questions with tolerable exactitude. He complained much of his head, and said that some one had struck him a violent blow upon it. Fresh blisters were applied to the head, on the inflamed surfaces; but they appeared to stimulate only in a very slight degree. He took a little Madeira, and occasionally a tea-spoonful of the camphor mixture. At midnight, a sudden change took place; the pulse sunk, convulsions supervened, and

half an hour after, he expired. Irritability of stomach was distressing, during the whole course of the disease. The reflections arising from the perusal of this case, are sufficiently obvious: of eighty-eight cases, it is the only one which has terminated fatally under my care. I think it more instructive than some of the more fortunate.

CASE II.

April 10, 1817.—5, p.m.

THOMAS MOLYNEUX (Æ. 23, seaman,) complains of severe headach, debility, and a sense of cold all over the body; and says he first felt a little indisposed this morning. The skin is very hot, the tongue foul, and the arterial action much increased. *Mittetr. Sang. ad syn-*
copen. et habeat. cathart. ex Jalap et sub Mur. Hyd.

April 11th, 9, a.m.—Last evening fifty ounces of blood were taken away, when syncope came on; the symptoms were relieved, and shortly after he took the cathartic which operated freely in the night: he continued cool and easy until a few hours ago, when reaction came on. The pain in the head, and heat of skin are extreme: and he complains of pain in the chest. *Repet. V. S. et applicet. Vesicat. Magn. Thoraci.*

12th, 9, a.m.—The abstraction of thirty ounces of blood yesterday, entirely removed the pungent heat of skin, and severe headach. The only complaint to day is slight headach, which came on this morning. Skin

cool, tongue cleaner ; let the anterior part of the head be shaved, and a blister applied to it.

13th, 9, a.m.—The blister entirely removed the pain, and he has now no complaint or febrile symptoms ; bowels free. *Curetr. Vesicat.*

20th.—He has been in a state of convalescence since the date of last report ; no active remedies have been required, and he is now in his usual state of health.

CASE III.

July 9, 1817.

MR. WILLIAM HOOPER (Æ. 18,) was attacked yesterday with the usual symptoms of fever, which increased in the evening. At 9, p.m. the headach and heat of skin were very great ; the extremities were of the natural temperature ; tongue clean and dry ; and thirst great. A vein was opened in the arm, and forty-four ounces of blood taken away. As syncope approached, the thirst gradually became less, until at last a profuse perspiration broke out ; the pain in the head subsided, and his great desire to drink went off. He remained pretty well all night, but became restless in the morning. The heat returned ; there was no decided pain, but languor, listlessness, and vertigo ; the pulse was full, strong, and frequent, and the countenance expressive of the greatest anxiety. Notwithstanding the absence of pain, venesection was resolved on, and twenty-four ounces of blood taken away, which removed the restlessness, re-

duced the force and frequency of the pulse, and caused perspiration and slight nausea.—*R. Calom. gr. x. et Pulv. Jalap drachm. semiss.*

10th.—After the bleeding yesterday morning, the whole of the morbid symptoms left him, and he only complained of weakness.

August 4th.—His convalescence has only been interrupted by torpidity of the bowels, which have required continual attention; he is now in his usual state of health and strength.

CASE IV.

August 20th, 1817.

THOMAS ASHBY (Æ. 14,) a thin slender boy, who lost forty ounces of blood on the 17th May, for the cure of ardent fever, complained yesterday morning of severe pain in the head, back of the neck, and breast; his face was red, shining, and tumid; with a great flow of tears from the eyes, which were prominent and inflamed; his lips were parched, the tongue white and moist, and there was a constant and copious flow of saliva from the mouth. The skin was parched, and burning hot, the pulse small, rapid, and wirey; and there was considerable tendency to coma. He said, he had felt the pain, during the night, in the back part of the head, and that it had increased and become general in the morning. About an hour before seen, he said he had rigors which lasted for ten minutes.

Forty ounces of blood were immediately taken from the arm, which relieved the headach and other pains,

but did not entirely subdue the heat of skin; a copious flow of perspiration came on, and he had a desire to go to stool, and had a copious evacuation. At 1, p.m. a cathartic of jalap and calomel was given, but almost immediately rejected. At 2, it was repeated, and retained for some hours. About 3, p.m. the heat, which had not been entirely removed by the bleeding, returned with greater violence; the pains and restlessness also reappeared, and it was found necessary to take away a little more blood: the same orifice was accordingly opened, and thirteen ounces abstracted, which brought on a complete relaxation of the surface, dispersation of pain, and removal of the morbid heat. The stomach was very irritable, and he vomited bilious matter several times in the afternoon; and about 6 o'clock, had two stools. He has passed a tolerable night, and is now quiet, and rather cool.

The pulse is small and quick, and he complains of slight headach; one of the tonsils is swelled and inflamed.—*Repetr. cath. ex calom. et jalap.*

21st August.—At 9, a.m. yesterday, a scruple of jalap was given without the calomel, which purged him freely, and brought away a large lumbricus. He slept a good deal during the day, and rested well last night. He complains this morning of pain in the bladder, but in other respects is much better. Tongue still foul and white; heat of skin much less, but still considerable; no appetite, nor thirst.—*Habl. calom. g. v.*

22d.—He remained well yesterday, and slept well last night. This morning he appeared quite convales-

cent, and said he had an appetite for breakfast; he drank a cup of tea, and eat a morsel of bread. About 1, p.m. his skin became very hot, and the headach returned. The cold bath was administered, and shortly after its use, the skin became still hotter, and determination to the head more evident; and at a quarter before 3, he became delirious. On being roused and questioned, he denied feeling any pain. A vein was however opened: during the first flow of the blood, he asked, "Why is that water running from me?" And when about ten ounces had come away, he opened his eyes, as if from a deep sleep, and said, "Oh, how much I am relieved!" Twenty ounces were abstracted, which produced a copious flow of perspiration; rendered the skin, which had a yellowish tinge, cool and soft; lowered the tone and quickness of the pulse; and restored the mind to its usual state.—*Applicet. resical. Magn. Capiti.*

On shore, since the 18th, the thermometer has ranged from 90° to 97°, and on board from 85° to 88° in the shade; and in the sun 126°, in the hottest parts of the day.--*R. Jalap. Pulv. et scrupulum Calom. gr. v.*

23d.—He took the calomel yesterday morning, but could not be prevailed on to take the jalap; about half-past 4, the heat and delirium returned; the orifice in the vein was again opened, and twelve ounces of blood taken away. The usual effects followed; he desired to have a stool, and on being placed upright for that purpose, syncope came on. The evacuation was copious, and of a natural appearance. After the last bleeding he remained in a comatose state, from which

it was difficult to rouse him for the whole night. The skin became and remained remarkably cool; the pulse small, but extremely quick; he has had one stool in the night, and this morning appears free from fever. The skin has attained its natural heat; tongue is natural; the countenance is cheerful, and he complains only of pain from the blister.—*R. Cal. gr. v.*

24th.—Has rested well; had two stools in the night, and is free from complaint. To have some light food.

31st.—Since last report he remained free from complaint, till yesterday forenoon, when the headach and giddiness returned. At 2, p.m. when first seen after the accession, there was great determination to the brain, and violent headach; great heat of skin, and considerable delirium. Twenty ounces of blood were taken from the arm, which produced a copious flow of perspiration, gave complete relief to the headach, but did not entirely subdue the morbid heat; he appeared much debilitated after the bleeding, and could not sit in an erect posture; he is much inclined to dose, and is roused with difficulty. About 4, a cathartic was given, which operated freely in the evening, and during the night; at 5, a blister was applied to the head. He is much better this morning, being perfectly collected in his ideas, and the skin very little above the natural temperature; the tongue is still white and furred; has had several stools this morning.

September 21st.—Though he has occasionally complained of headach and giddiness, he has been gradually gaining strength since last report; the heat of skin has

been greater than natural, though only for a short time; but these complaints have arisen solely from the too free indulgence of a keen appetite, which greatly retarded his convalescence. He is this day discharged to duty.

CASE V.

May 17, 1817.

Mr. B——, of the Commissariat, embarked at St. Thomas's on the 8th instant, for a passage to Barbadoes. He is of a very full habit of body, large trunk and head, and a remarkably short neck. Previous to his coming on board, he had been indulging himself in all the pleasures of this place; and, in his excursions on horse-back, had been twice bruised severely by falls. On the 9th, an eruption, of a very inflammatory nature, broke out on the surface, principally about the head and extremities. He bore the pain with very little fortitude, and scarcely could be prevailed on to take rest or medicine. On the 13th, the right knee was much inflamed, and general symptoms of increased action appeared; in consequence of which, a pound of blood was taken from the arm, which relieved him. On the same day, he had been with difficulty prevailed on to take a drachm of compound powder of jalap, which acted freely.

On the 14th and 15th, he was quite well; eat and drank as usual, and was continually harassing every one near him with an account of what he had suffered. Yesterday, till night, he was particularly cheerful, and appa-

rently had given up his fears. At 6, p.m. his skin became intensely hot; he drank some rum and water, and expressed a wish to go to bed; at 8, he lay down, and though very ill, insisted on having a glass of brandy and water, *strong*. Violent headach, intense heat of skin, quick, full pulse, and prostration of strength, showed a violent attack of fever: these symptoms increased till half-past 9, when, in spite of his fears and frantic exclamations, a vein was opened, and 110 ounces of blood taken away; he vomited twice during the operation; it produced slight relaxation of the surface, and entirely removed the headach. His expressions and actions during, and after the bleeding, were a curious combination of the last degree of fear, vanity, and religious enthusiasm. About half-past 10, he took ten grains of calomel; and as his mind was so ill at ease, twenty drops of tinct. opii. were given, and thirty more in the night, with as much vin. antim.; but without producing any effect. His fears kept him awake all night, during the greater part of which he continued to utter the wildest exclamations; praying, and, while shuddering with fear, boasting that he "would show us how a Christian could die." Towards morning, I pointed out to him, in the strongest terms, the extravagance and ridiculousness of such conduct: he became ashamed, fell asleep, and is now (9 a.m.) much better, without pain, and covered with perspiration. We have been obliged to conceal from him the quantity of blood taken away, as well as the nature of his disease; he had no stool on the 15th.—
R. Calom. gr. v. Repetr. Jalap. si opus sit.

He took two drachms of the compound powder of jalap yesterday morning, which was immediately rejected: at 1, a.m. a drachm and half were given, and retained; towards evening he had two stools. He has no complaint to-day, and is up and dressed.

20th.—We arrived this morning at Barbadoes, and he went on shore to his quarters, quite well and strong.

CASE VI.

August 6, 1817.

WILLIAM SCOTT (Æ. 40,) was attacked yesterday evening with severe headach, pain in the eyes, restlessness, and irritability of stomach: the skin was hot; pulse full, strong and quick; face swelled and shining; bowels regular. He is much given to intoxication, and is of a robust constitution. A cathartic was given, but did not operate. At 8, p.m. a vein was opened, and eighty ounces of blood taken away, which instantaneously removed the headach, and brought on a flow of perspiration; the pulse and skin became natural, and he had a copious alvine evacuation. He is this morning free from pain, or other febrile symptom.—*Repetr. Cath.*

7th.—The cathartic operated freely; he slept well last night, and continues free from fever.

15th.—He continued to convalesce from the date of last report, and is this day sent to duty in his usual state of health.

CASE VII.

September 18, 1817.

Mr. JOHN BURNETT (Æ. 16,) was seized yesterday, about 5 in the afternoon, with pain in the head, which rapidly increased in violence; and when he was first seen at 7, it was very severe. He then complained of lassitude and restlessness; of pain in the forehead above the eyes, and in the eyes themselves, on the slightest pressure, or on motion; and also of pain in the loins and breast. His eyes were prominent and inflamed; his face swelled and shining; the heat in the axilla 110; pulse full, strong, and frequent; tongue foul; skin dry. At a quarter after 8 o'clock, a vein was opened, and twenty ounces of blood taken away, which removed the pains, and brought on a very copious flow of perspiration; but in less than an hour the headach returned, and the skin again became very hot and dry: another vein was opened, and twenty-six ounces of blood taken away. The same effects were produced by this bleeding, and it relaxed the bowels, and he had two copious evacuations of natural colour and consistence; at 11, five grains of calomel were given. This morning he appears better, and has no headach, but on motion, or sitting up; the skin and pulse are natural; tongue furred and white. —*Habeat. Pulv. Jalap. Comp. drachmam.*

19th.—The cathartic operated freely; appetite returns, and he appears to be convalescent.

20th.—He remained free from complaint all yesterday,

but had a slight exacerbation this morning, apparently from having indulged his appetite too freely last night.

—*R. Calom. gr. v. Pulv. Jalap. scrupulum.*

21st.—About 2 o'clock yesterday, headach, heat of skin, and other febrile symptoms returned. A vein was again opened, and nineteen ounces of blood taken away, which produced the happiest effects. The skin is rather hot and dry this morning; the cathartic did not operate freely yesterday, it is therefore to be repeated.

27th.—He became, and remained convalescent from the date of last report, till yesterday evening, when the headach returned, the skin became burning hot, and the heart throbbed violently, though the pulse at the wrist was little affected; the tongue was white and furred. Twenty ounces of blood were taken away, which removed every febrile symptom. He has no complaint this morning.—*R. P. Jalap. Comp. drachmam.*

October 3.—Since last report his convalescence has been uninterrupted, and he is now to duty in good health.

CASE VIII.

November 1, 1817.

ROBERT PEWTER (Æ. 35.) was attacked the night before last with pain in the head, which increased until noon yesterday, when he first complained. At that time, his face was flushed and shining, skin very hot, pulse full and quick, and he complained of severe and constant pain in the forehead and eyes; bowels were regu-

lar. Seventy ounces of blood were then taken from the arm, which removed the headach and heat of skin, and lowered the tone and frequency of the pulse; five grains of calomel were afterwards given. He passed a tolerable night, and as he continued to complain of headach, this morning the same orifice was opened, but only eight ounces of blood could be procured from it, which has greatly relieved him.—*Abradant. Capillæ et Applicet. Vesicat. Capiti.*

2d.—The cathartic operated well; the heat of skin subsided before night yesterday. He has had a good night, and is quite well this morning.

13th.—He continued to convalesce since last report, and is this day discharged to duty quite well.

CASE IX.

November 28, 1817.

JOHN MARRETT (Æ. 17,) complained yesterday of severe pain across the forehead, in both his sides, and in the loins. His skin was intensely hot; his eyes dull and heavy; his face pale and swelled. Fifty ounces of blood were taken away. Perspiration, decrease of heat, of the strength and frequency of the pulse, and an alvine evacuation, followed. The heat of skin, however, was not entirely removed, and recovering from syncope, he complained of pain in the head, which was immediately shaved, and a blister applied to it. He has passed a tolerable night, and has had two stools.

29th.—The heat of skin, and pain in the head, returned with violence yesterday morning; twenty ounces of blood were taken away, which relieved the symptoms. Last evening he had a comatose appearance, which still remains; and he now complains of slight headach, and pain in the breast.—*R. Pulv. Jalap. Comp. drachmam.*

30th.—The medicine operated freely yesterday; he passed a good night, and is much better this morning.

Decr. 1st.—He became very restless yesterday forenoon, and towards evening the febrile symptoms re-appeared. Fifteen ounces of blood were taken from the arm, which completely relieved him; and he continued to convalesce until the 11th, when he was sent to duty in good health.

CASE X.

February 16, 1818.

WILLIAM YOUNG (Æ. 28,) has had two attacks of fever; one on the 28th April, for the cure of which he lost eighty-six ounces of blood, and one on the 9th of July, for the cure of which he lost forty-four. He complained last evening, at 5, p.m. of severe headach, confined to a line above the eyebrows; pain in the eyes on pressure, motion, or exposure to the light; lassitude and restlessness. The pulse was quick, but oppressed, for it rose on bleeding: the skin burning hot; the eyes prominent; the face swelled and shining; the tongue natural, and an expression of the deepest anxiety in the countenance. He said he first felt rather unwell about noon; that he

had slight rigors at four o'clock, when he first felt the headach, which had since become distressing. At 6, p.m. seventy-six ounces of blood were taken from the arm, which removed the pain in the head, but not entirely the heat of skin; at half-past 6, the headach returned, and the heat of skin became greater than before. The head was shaved, and a blister applied to it. At 8, the pain continuing to increase, and the heat of the body having become exceedingly intense, bleeding was again had recourse to, and thirty-nine ounces of blood taken away; which entirely removed the headach, brought on a copious flow of perspiration, and relieved the anxiety and lassitude. He passed a tolerable night, and is this morning free from fever.—*Habl. Pulv. Jalap. Comp. drachmam.*

18th.—Bowels rather costive; no pain, heat of skin, or other febrile symptom.—*Habl. Pulv. Jalap. Comp. drachmam.*

26th.—He has continued to convalesce rapidly since last report, and is now in his usual state of health, and this day discharged to duty.

CASE XI.

July 6, 1818.

JOHN HORNER (Æ. 21,) complained at 6 o'clock last evening, of severe pain across the forehead, and in the loins, which had commenced at 4, and was then accompanied by slight rigors; his face was much swelled, red,

and shining, with an expression of great anxiety; his eyes inflamed, and incapable of bearing the light; his pulse small, hard, and quick; his skin burning hot; and his bowels regular. At 8 o'clock, all these morbid symptoms had increased, particularly the headach. A vein was therefore opened, and forty-eight ounces of blood taken away, which removed the pains and heat of skin, and restored the countenance to its natural and cheerful appearance; five grains of calomel were afterwards given. He has passed a tolerable night, and is this morning almost free from fever.—*R. Calom. gr. v. Pulv. Jalap. drachm. semiss. Statim. Sumend.*

7th.—The cathartic, given yesterday morning, did not operate, and was therefore repeated at 11 o'clock, which produced several evacuations. He continued free from headach, or any febrile symptoms, until 5. p.m. when he became extremely hot, and complained of violent pain in the head and in the loins; his pulse was small, hard, and quick. Forty-two ounces of blood were taken away, which removed the headach, and other morbid symptoms. He passed a tolerable night, and is this morning free from fever.—*R. Pulv. Jalap. Comp. drachm. semiss.*

12th.—He continued to get well until yesterday evening, when, in consequence of sitting up too long, and indulging his appetite too much, the headach returned, and was rather severe. His head was shaved and a blister applied to it, and five grains of calomel given. He has passed a tolerable night, and is this morning free

from febrile symptoms.—*R. Jalap. Pulv. Comp. drachmam.*

18th.—From the date of last report, he appeared to recover rapidly. He rested well last night, but does not appear so well to-day as yesterday. There is no decided complaint; but a languid, or comatose state of the sensorium, with giddiness on sitting erect.—*R. Pulc. Jalap. Comp. drachmam.*

19th.—The cathartic operated four times yesterday, but without giving much relief. The giddiness and stupor remained the same; the pupils were much dilated towards the evening; the pulse firm, full, but not frequent; no heat of skin, no pain, no restlessness or nausea; the slightest pressure on the orbits, or exposure to the light, gave pain, though not very acute. At 6, p.m. the head was shaved, and a large blister applied to it, which has acted well. He has slept very little during the night; this morning the pain in the eyes on exposure to the light, or pressure, is more acute.—*R. Jalap. Pulv. Comp. drachmam.*

20th, 9, a.m.—The cathartic operated several times yesterday, and brought away a considerable quantity of mucus, mixed with bilious matter. The action of the blister relieved the stupor and giddiness, but did not remove them; and in the evening, he complained of the pain in the eyes shifting to the forehead, and becoming more acute; the pulse, though hard and full, was not frequent, and there was no heat of skin. He slept a good deal in the fore part of the night; but at 4 o'clock

this morning, he complained of violent pain across the forehead and in the eyes, which, he said, felt as if burning; his pulse was hard and wiry, his skin burning hot, tongue furred, face red and shining. There was also considerable coma; and every symptom of violent action and extensive disease in the sensorium. At half after 5, a.m. a vein was opened, and twenty-five ounces of blood taken away, which gave him infinite, and immediate relief. When the blood had separated into its component parts, the buffy coat was found to be a quarter of an inch thick, the crassamentum contracted to about half the size of the blood taken away, and exceedingly firm. At 7, the heat began to return, the pulse became harder, and more frequent. He felt no pain in the head, but said that his eyes were fiery hot. The orifice of the vein was re-opened, and fourteen ounces of blood taken away, which appears to have relieved him very much; the stupor is not so great, and there is no pain or heat of skin.—*Capiat. solut. superlat. Potassæ ad libitum.*

21st. — After the bleeding yesterday, he became lively and cheerful; a wetted cloth was applied over the head during the day, and a cathartic was given, which has operated several times. He is now stronger than he has been for the last few days.

August 20th.—He was this day discharged to duty.—It has been particularly necessary to attend to the state of the digestive organs, but otherwise the recovery was uninterrupted by any unpleasant symptom. According

to the usual system, this patient should have been plentifully supplied with wine and bark, when the coma and great debility took place; and it was actually observed to me, by a medical man of considerable experience, that the great previous depletion had produced these effects—the result shows with how much justice.

THE foregoing Cases, and the following Abstract, I trust, will place the depleting practice in a proper light; and assist to expel those fears of debility, which have so paralyzed the minds of men, in treating and reasoning on this disease.

ABSTRACT OF FEVER CASES

Occurring on board his Majesty's Ship Seaman, between the 28th March, 1817, and 3d October, 1818.

Signification of marks.—D. duty on board.....D. D. died on board.....
D. H. discharged to the hospital.

| Date of Entry. | Name. | Age. | Date of Discharge. | How Discharged of | Blood. | Remarks. |
|----------------|----------------|------|--------------------|-------------------|--------|--------------------|
| 1817. | | | | | | |
| March 28 | J. Maskill, | 51 | March 29 | D. H. | 34 | Recovd at Hospital |
| 28 | D. Brydges, | 22 | 28 | D. H. | 50 | |
| April 7 | G. Finch, | 27 | April 7 | D. H. | 50 | |
| 4 | J. Henderson, | 50 | 4 | D. H. | 50 | |
| 4 | R. Woolridge, | 30 | 4 | D. H. | 50 | |
| 5 | S. Little, | 20 | 6 | D. H. | 50 | |
| 4 | S. Johnson, | 24 | 4 | D. H. | 50 | |
| 5 | J. Wilson, | 24 | 6 | D. H. | 60 | |
| 6 | A. Mitchell, | 22 | 6 | D. H. | 60 | Died at Hospital. |
| 6 | J. Hems, | 21 | 6 | D. H. | 54 | Recovd at Hospital |
| 7 | P. Oliver, | 27 | 9 | D. | 56 | Duty on board. |
| 7 | J. Johnson, | 33 | 9 | D. | 56 | |
| 10 | T. Molyneux, | 25 | 10 | D. | 80 | |
| 11 | R. Moore, | 41 | 11 | D. | 40 | |
| 18 | T. Scedo, | 19 | 14 | D. | 80 | |
| 15 | W. Pawlin, | 19 | 21 | D. D. | 90 | Died on board. |
| 15 | R. Clark, | 31 | May 5 | D. | 55 | Duty on board. |
| 20 | J. Jones, | 25 | April 25 | D. | 50 | |
| 21 | J. Harris, | 27 | 24 | D. | 50 | |
| 28 | W. Young, | 28 | May 3 | D. | 80 | |
| May 17 | Mr. B—, | 25 | 23 | D. | 110 | At sea bleeding. |
| 18 | T. Ashley, | 14 | 24 | D. | 40 | Recovd. on board. |
| 24 | J. Horner, | 21 | 24 | D. H. | 46 | Recovd. at Hospd. |
| July 9 | Mr. Hooper, | 18 | August 4 | D. | 68 | Recovd. on board. |
| 9 | W. Young, | 27 | July 16 | D. | 64 | |
| 9 | J. Clark, | 53 | 13 | D. | 48 | |
| 13 | T. Scedo, | 19 | 21 | D. | 40 | |
| 18 | Mr. Chrichton, | 25 | August 10 | D. | 90 | |
| 22 | G. Ready, | 30 | July 25 | D. | 54 | |
| August 6 | J. Carpenter, | 15 | August 8 | D. | 40 | |
| 6 | W. Scott, | 41 | 10 | D. | 80 | |
| 7 | J. Clark, | 57 | 10 | D. | 57 | |
| 19 | J. Ashley, | 14 | Sept. 27 | D. | 106 | |
| 25 | J. Tickell, | 19 | Aug. 27 | D. | 36 | |
| Sept. 2 | W. Bain, | 17 | Sept. 8 | D. | 22 | |
| 6 | W. Ward, | 11 | 11 | D. | 64 | |

| Date of Entry. | Name. | Age | Date of Discharge | How disposed of | Blood lost. | Remarks. |
|----------------|------------------|-----|-------------------|-----------------|-------------|---------------------|
| Sept. | 7 J. Coley, | 27 | Sept. 10 | D. | 50 ozs. | Recovered on board. |
| | 10 J. Sneece, | 19 | 16 | D. | 47 | |
| | 15 J. Clark, | 17 | 22 | D. | 46 | |
| | 18 Mr. Burnett, | 17 | Oct. 3 | D. | 85 | |
| | 19 J. Hunt, | 26 | Sept. 25 | D. | 90 | |
| | 21 P. Paul, | 17 | 26 | D. | 24 | |
| Oct. | 17 J. Herbert, | 56 | Oct. 24 | D. | 35 | |
| | 19 J. Johnson, | 33 | 23 | D. | 32 | |
| | 23 J. Carpenter, | 15 | 27 | D. H. | 106 | Recovd. at Hospital |
| | 24 R. Whylett, | 17 | 24 | D. H. | 50 | |
| | 26 J. Pluckett, | 18 | 27 | D. H. | 55 | |
| | 29 J. Nakes, | 22 | Nov. 8 | D. | 46 | Recovered on board. |
| | 30 J. Dixon, | 40 | 4 | D. | 37 | |
| Nov. | 1 R. Pewter, | 35 | 13 | D. | 78 | |
| | 1 J. Horner, | 21 | 30 | D. | 96 | |
| | 1 R. Rooney, | 26 | 6 | D. | 64 | |
| | 1 J. Ives, | 34 | 6 | D. | 48 | |
| | 8 T. Mollyneux, | 23 | 15 | D. | 74 | |
| | 9 W. Boyd, | 22 | 11 | D. | 30 | |
| | 14 W. Goodwin, | 19 | 23 | D. | 67 | |
| | 19 Mr. Burnett, | 17 | 21 | D. | 39 | |
| | 20 W. Scott, | 41 | 26 | D. | 54 | |
| | 18 W. Boon, | 31 | 21 | D. | 60 | |
| | 28 J. Marrett, | 17 | Dec. 11 | D. | 85 | |
| Dec. | 8 T. Sneece, | 20 | 11 | D. | 30 | |
| | 10 Mr. Purchas, | 28 | 17 | D. | 28 | |
| | 16 G. Simpson, | 46 | 24 | D. | 34 | |
| | 20 Mrs. P—, | 28 | 27 | D. | 63 | |
| | 23 J. Clark, | 18 | 26 | D. | 34 | |
| 1818.] | 20 J. Mollyneux, | 23 | 26 | D. | 32 | |
| Jan. | 5 J. Lamport, | 18 | Jan. 10 | D. | 40 | |
| | 14 W. Murray, | 31 | 25 | D. | 42 | |
| Feb. | 8 J. Herring, | 28 | Feb. 28 | D. | 34 | |
| | 8 — Harris, | 24 | 14 | D. | 50 | |
| | 10 C. Holden, | 35 | 25 | D. | 44 | |
| | 15 W. Young, | 27 | 26 | D. | 115 | |
| | 27 J. Jackson, | 25 | March 9 | D. | 64 | |
| March | 9 J. Horner, | 22 | 24 | D. | 50 | |
| April | 11 J. Lamport, | 18 | April 20 | D. | 42 | |
| | 30 S. Little, | 26 | May 5 | D. | 68 | |
| May | 1 W. Boon, | 31 | 5 | D. | 55 | |
| | 2 Mr. Roberts, | 26 | 8 | D. | 46 | |
| | 17 W. Goodwin, | 19 | June 10 | D. | 96 | |
| | 17 J. Maskill, | 31 | May 20 | D. | 48 | |
| | 17 G. Colien, | 30 | 20 | D. | 63 | |
| | 19 W. Bradbury, | 33 | 26 | D. | 81 | |
| | 21 P. Hargood, | 33 | 24 | D. | 60 | |
| | 21 T. Phillips, | 21 | 24 | D. | 57 | |

| Date of Entry. | Name. | Age. | Date of Discharge | How disposed of. | Blood lost. | Remarks. |
|----------------|---------------|------|-------------------|------------------|-------------|--------------------|
| May 31 | J. Mellyneux, | 21 | June 10 | D. | 76 | Recovered on board |
| 31 | S. Little, | 21 | 13 | D. | 96 | |
| June 1 | T. Phillips, | 21 | 14 | D. | 42 | |
| July 1 | J. Smith, | 70 | July 4 | D. | 45 | |
| | W. Wilkinson, | 60 | 19 | D. | 29 | |
| | J. Horner, | 22 | Aug. 20 | D. | 129 | |
| | J. Plucknett, | 18 | July 14 | D. | 24 | |
| Aug. 30 | Mr. Barnett, | 19 | Sept. 3 | D. | 50 | |
| | W. Young, | 28 | 3 | D. | 53 | |
| Sept. 17 | T. Ashley, | 15 | 28 | D. | 35 | |
| | W. Boon, | 31 | Oct. 3 | D. | 35 | |
| | H. Smith, | 25 | 16 | D. D. | 88 | |
| Oct. 2 | W. Young, | 28 | 10 | D. | 75 | Died at sea. |

THIS Abstract will also demonstrate, how frequently Yellow Fever may re-appear in the same subject.

Of fourteen cases sent to the hospital at Barbadoes, all were previously bled but two, and all recovered but one of those two.

Besides the cases in the above Abstract, I attended forty-five merchant-sailors in this disease; and they all recovered but one. They were treated on the same plan.

END.

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F. D. Finlay, Printer,  
Belfast.